

## PENT COOPERATION TR

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION  
(PCT Rule 61.2)

Date of mailing (day/month/year) 17 May 2001 (17.05.01)	To:  Commissioner US Department of Commerce United States Patent and Trademark Office, PCT 2011 South Clark Place Room CP2/5C24 Arlington, VA 22202 ETATS-UNIS D'AMERIQUE  in its capacity as elected Office
International application No. PCT/CZ00/00064	Applicant's or agent's file reference S 11491
International filing date (day/month/year) 08 September 2000 (08.09.00)	Priority date (day/month/year) 08 September 1999 (08.09.99)
Applicant TREFIL, Pavel et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

12 March 2001 (12.03.01)

in a notice effecting later election filed with the International Bureau on:

\_\_\_\_\_

2. The election  was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No.: (41-22) 740.14.35	Authorized officer  R. Forax  Telephone No.: (41-22) 338.83.38
---	--

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

PATENTSERVIS PRAHA A.S.  
Jivenska 1/1273  
140 21 PRAHA 4  
REPUBLIQUE TCHEQUE



## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing (day/month/year)	05.10.2001
-------------------------------------	------------

Applicant's or agent's file reference <b>S 11491</b>	<b>IMPORTANT NOTIFICATION</b>
---	-------------------------------

International application No. <b>PCT/CZ00/00064</b>	International filing date (day/month/year) <b>08/09/2000</b>	Priority date (day/month/year) <b>08/09/1999</b>
--	---	---

Applicant <b>BIOPHARM, VYZKUMNY USTAV BIOFARMACIE A... et al.</b>
--

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/	Authorized officer
---------------------------------------	--------------------

 <b>European Patent Office</b> D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	<b>Faux, K</b>  Tel. +49 89 2399-8062
---	---



## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

## (PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>S 11491</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/CZ00/00064</b>	International filing date (day/month/year) <b>08/09/2000</b>	Priority date (day/month/year) <b>08/09/1999</b>
International Patent Classification (IPC) or national classification and IPC <b>A01K67/027</b>		
Applicant <b>BIOPHARM, VYZKUMNY USTAV BIOFARMACIE A... et al.</b>		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input checked="" type="checkbox"/> Certain observations on the international application</li> </ul>		

Date of submission of the demand <b>12/03/2001</b>	Date of completion of this report <b>05.10.2001</b>
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Page, M  Telephone No. +49 89 2399 7322



**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CZ00/00064

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):  
**Description, pages:**

1-12 as originally filed

**Claims, No.:**

1-3 as originally filed

**Drawings, sheets:**

1/12-12/12 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description,        pages:
- the claims,        Nos.:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/CZ00/00064

the drawings, sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)): *(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N) Yes: Claims 1-3

No: Claims

Inventive step (IS) Yes: Claims 1-3

No: Claims

Industrial applicability (IA) Yes: Claims 1-3

No: Claims

**2. Citations and explanations  
see separate sheet**

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

The application concerns the provision of a method for producing transgenic fowl using radiation-sterilised acceptor cocks.

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**V.1 Reference is made to the following documents:**

- D1: BENOIT J ET AL: 'GREFFES INTERRACIALES DE TESTICULES CHEZ LES GALLINACES. TESTOTESTES FERTILES OBTENUS PAR GREFFE DE TESTICULES DE POUSSINS WYANDOTTE BLANC DANS LES TESTICULES STERILISES PAR LES RAYONS X DE COQS RHODE ISLAND RED' COMPTES RENDUS DES SEANCES DE LA SOCIETE DE BIOLOGIE ET DE SES FILIALES, XX, XX, vol. 162, no. 4, 23 November 1968 (1968-11-23), pages 838-842, XP000998009 ISSN: 0037-9026
- D2: BRINSTER R L ET AL: 'SPERMATOGENESIS FOLLOWING MALE GERM-CELL TRANSPLANTATION' PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 91, November 1994 (1994-11), pages 11298-11302, XP000993002 ISSN: 0027-8424
- D3: BRINSTER R L ET AL: 'GERMLINE TRANSMISSION OF DONOR HAPLOTYPE FOLLOWING SPERMATOGONIAL TRANSPLANTATION' PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 91, November 1994 (1994-11), pages 11303-11307, XP000993003 ISSN: 0027-8424 cited in the application
- D4: VICK L ET AL: 'GERM-LINE CHIMERAS CAN PRODUCE BOTH STRAINS OF FOWL WITH HIGH EFFICIENCY AFTER PARTIAL STERILIZATION' JOURNAL OF REPRODUCTION AND FERTILITY, JOURNALS OF REPRODUCTION AND FERTILITY LTD, GB, vol. 98, no. 2, July 1993 (1993-07), pages 637-641, XP000998004 ISSN: 0022-4251
- D5: VICK L ET AL: 'TRANSGENIC BIRDS FROM TRANSFORMED PRIMORDIAL GERM CELLS' PROCEEDINGS OF THE ROYAL SOCIETY OF EDINBURGH. SECTION B, BIOLOGICAL SCIENCES, ROYAL SOCIETY OF EDINBURGH,

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/CZ00/00064

EDINBURGH, GB, vol. 251, no. 1332, 22 March 1993 (1993-03-22), pages 179-182, XP000997980 ISSN: 0269-7270

**V.2 Novelty and Inventive Step- Art.33(1) - (3) PCT:**

V.2.1 Claims 1-3 appear to be novel and inventive in light of the cited prior art. D1 discloses the radiation sterilisation of cocks to be transplanted with the gonads of donor cocks, but not to accept modified sperm. D2 and D3 teach that chemically sterilised mice can be made fertile through the injection of germ cells from foreign mice. D4 teaches the partial chemical sterilisation of fowl followed by the injection of avian primordial germ cells. D5 teaches the use of avian retroviruses to transform spermatocytes in the generation of transgenic fowl. However, nothing in the prior art motivates the skilled person to combine these teachings in order to generate transgenic fowl in the manner provided by the application.

**Re Item VIII**

**Certain observations on the international application**

VIII.1 For the sake of clarity, the wording of claim 3 be altered to read "said acceptor cock" (Articles 6 and 34(4)(a)(i) PCT).

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>S 11491</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/CZ 00/00064</b>	International filing date (day/month/year) <b>08/09/2000</b>	(Earliest) Priority Date (day/month/year) <b>08/09/1999</b>
Applicant <b>BIOPHARM, VYZKUMNY USTAV BIOFARMACIE A...</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2.  **Certain claims were found unsearchable** (See Box I).

3.  **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

as suggested by the applicant.

because the applicant failed to suggest a figure.

because this figure better characterizes the invention.

2

None of the figures.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/CZ 00/00064

**B x III TEXT OF THE ABSTRACT (Continuation of item 5 of the first sheet)**

A method of transgenic fowl construction using germline spermatogonial cells for transfer of genetic information in fowl strain, which method is carried out so that the testicles only of an acceptor cock are irradiated with gamma rays up to the absorbed dose 8 Gy in one irradiation repeatedly and externally. Thereby, the original germline spermatogonial cells in the testicles of the acceptor cock are destroyed, which acceptor cock is then not able to produce sperms, whereby, the testicles structure, including the Sertoli's and Leydig's cells remains preserved for implantation of foreign germline spermatogonial cells of a donor cock. The new implanted germline spermatogonial cells then continue in production of sperms. The sperms are able to fertilize and that store all genetic information of the germline spermatogonial cells of the donor cock. The implantation is carried out after 50 days and more after the last irradiation.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/CZ 00/00064

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A01K67/027

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A01K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>BENOIT J ET AL: "GREFFES INTERRACIALES DE TESTICULES CHEZ LES GALLINACES. TESTOTESTES FERTILES OBTENUS PAR GREFFE DE TESTICULES DE POUSSINS WYANDOTTE BLANC DANS LES TESTICULES STERILISES PAR LES RAYONS X DE COQS RHODE ISLAND RED" COMPTE RENDUS DES SEANCES DE LA SOCIETE DE BIOLOGIE ET DE SES FILIALES, XX, XX, vol. 162, no. 4, 23 November 1968 (1968-11-23), pages 838-842, XP000998009 ISSN: 0037-9026 page 839, paragraph 4 -page 840 ---</p> <p style="text-align: center;">-/-</p>	1

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

23 August 2001

Date of mailing of the international search report

03/09/2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Chambonnet, F

## INTERNATIONAL SEARCH REPORT

International Application No

T/CZ 00/00064

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	BRINSTER R L ET AL: "SPERMATOGENESIS FOLLOWING MALE GERM-CELL TRANSPLANTATION" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 91, November 1994 (1994-11), pages 11298-11302, XP000993002 ISSN: 0027-8424 the whole document ---	1
A	BRINSTER R L ET AL: "GERMLINE TRANSMISSION OF DONOR HAPLOTYPE FOLLOWING SPERMATOGONIAL TRANSPLANTATION" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 91, November 1994 (1994-11), pages 11303-11307, XP000993003 ISSN: 0027-8424 cited in the application the whole document ---	1
A	AIGE-GIL V; SIMKISS K : "STERILIZATION OF AVIAN EMBRYOS WITH BUSULPHAN" RESEARCH IN VETERINARY SCIENCE, vol. 50, 1991, pages 139-144, XP000998022 cited in the application the whole document ---	1
A	VICK L ET AL: "GERM-LINE CHIMERAS CAN PRODUCE BOTH STRAINS OF FOWL WITH HIGH EFFICIENCY AFTER PARTIAL STERILIZATION" JOURNAL OF REPRODUCTION AND FERTILITY, JOURNALS OF REPRODUCTION AND FERTILITY LTD, GB, vol. 98, no. 2, July 1993 (1993-07), pages 637-641, XP000998004 ISSN: 0022-4251 the whole document ---	1
A	AIGE-GIL V ET AL: "STERILISING EMBRYOS FOR TRANSGENIC CHIMAERAS" BRITISH POULTRY SCIENCE, LONGMAN GROUP, GB, vol. 32, 1991, pages 427-438, XP000994670 ISSN: 0007-1668 the whole document ---	1
	-/-	

## INTERNATIONAL SEARCH REPORT

International Application No

T/CZ 00/00064

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WISHART G J ET AL: "EFFECT OF GAMMA-RADIATION ON FOWL SPERM FUNCTION IN VITRO AND IN VIVO"  JOURNAL OF REPRODUCTION AND FERTILITY,  JOURNALS OF REPRODUCTION AND FERTILITY LTD, GB,  vol. 75, no. 2, November 1985 (1985-11),  pages 617-622, XP000998034  ISSN: 0022-4251  the whole document  -----</p>	1
A	<p>VICK L ET AL: "TRANSGENIC BIRDS FROM TRANSFORMED PRIMORDIAL GERM CELLS"  PROCEEDINGS OF THE ROYAL SOCIETY OF EDINBURGH. SECTION B, BIOLOGICAL SCIENCES, ROYAL SOCIETY OF EDINBURGH, EDINBURGH, GB, vol. 251, no. 1332, 22 March 1993 (1993-03-22), pages 179-182, XP000997980  ISSN: 0269-7270  page 182, column 1, paragraph 2  -----</p>	1